



Sierra Mountaineering International

236 N Main St

Bishop, CA 93514

Tel (760) 872-4929 Fax (760) 872-2489

info@sierramountaineering.com

www.sierramountaineering.com

Equipment List for Winter/Spring Mt. Whitney Climbs

B P
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CLOTHING

- — LONG UNDERWEAR TOP AND BOTTOM
- — EXPEDITION WEIGHT LONG UNDERWEAR TOP OR WOOL SHIRT
- — SWEATER OR SOFTSHELL JACKET
- — SYNTHETIC CLIMBING PANTS
- — WATERPROOF/BREATHABLE JACKET
- — WATERPROOF/BREATHABLE PANTS
- — *DOWN JACKET
- — GAITERS
- — WARM CAP
- — FACE MASK OR BALACLAVA
- — INSULATED SHELL GLOVES
- — SYNTHETIC OR WOOL GLOVES
- — MOUNTAINEERING SOCKS
- — LINER SOCKS (OPTIONAL)
- — BASEBALL CAP

GEAR

- — *PACK
- — *SLEEPING BAG- a compression stuff sack is highly recommended
- — *SLEEPING PAD
- — *MOUNTAINEERING BOOTS
- — *SNOWSHOES
- — *AVALANCHE TRANSCEIVER
- — *CRAMPONS
- — *ICE AXE
- — *MOUNTAINEERING HELMET
- — *CLIMBING HARNESS
- — CARABINERS- two large pear shaped screw gate locking
- — *ONE MECHANICAL ASCENDER
- — WEBBING- one 5' & one 10' piece of 11/16", or 1 double & 1 shoulder length sewn sling
- — *ADJUSTABLE TREKKING POLES- with the baskets attached
- — *HEADLAMP- with new batteries and spare bulb
- — DARK GLASSES- with side shields and UV rated
- — GOGGLES
- — TWO WATER BOTTLES
- — THERMOS
- — POCKET KNIFE
- — WRIST WATCH
- — SUNSCREEN AND LIP BALM- spf 15 minimum
- — TOILET PAPER and "SHE-WEE" (see notes for women only)
- — TOOTHBRUSH, PASTE, FLOSS
- — EATING UTENSILS- bowl, insulated cup, spoon
- — CAMERA
- — PERSONAL LUNCH FOOD

*Items with an asterisk are available for rental from SMI.

EQUIPMENT DESCRIPTIONS

This equipment list supplement is provided to describe in detail each item you will need for our trip. It answers many of the most commonly asked questions regarding each item. It also includes brand name recommendations and tips on selecting gear.

When purchasing gear look for brands that offer a lifetime guarantee and buy from retailers who will stand behind them. A reputable store will simply exchange items on the spot with no questions asked. If they do give you a hassle, do not deal with them anymore.

CLOTHING

WOOL T-SHIRT: Quick drying and designed for hiking in heat. For men: Icebreaker Sphere short sleeve shirt. For women: Icebreaker Tech Lite Short Sleeve Crew & Spirit Tank.

LONG UNDERWEAR TOP AND BOTTOM: Wool and Capilene good fabrics. **Do not** bring cotton. It comes in different weights or thicknesses companies assign numbers to. Icebreaker 200 or 260 or Patagonia #2 or #3 is appropriate. It should fit fairly snug against your skin without feeling constricting. There should not be a lot of wrinkles. It is designed to wick perspiration moisture away from your body and too loose of a fit will inhibit its ability to do that. We use both weights with similar results and sometimes mix and match wearing different weights on our top and bottom. Garments made from Merino wool by Icebreaker and Patagonia work very well. It is high quality wool that does not itch or absorb body odor quickly. Capilene made by Patagonia is a good synthetic fabric. It wicks well, is easy to wash, and stinks much less than other synthetic fabrics when worn for days at a time.

EXPEDITION WEIGHT TOP: Same materials as above only in a heavier weight. It is designed to fit over its lighter counterparts and cut accordingly. Icebreaker 320 weight or Patagonia #4 is an appropriate weight for this piece. Zip T-neck style tops are popular.

SWEATER OR SOFTSHELL JACKET: A thick wool sweater made by Icebreaker, Patagonia, or SmartWool. Many mountaineering sweaters are made from a synthetic fabric referred to as “soft shell”. Schoeller fabric is the most commonly used material. Zip styles offer more versatility. If you bring a wool sweater, make sure it is thick and tightly woven. Size your sweater to fit over the previous layer(s).

SYNTHETIC CLIMBING PANTS: Synthetic Climbing Pants have become the standard pants for mountaineering. Schoeller fabric is what most models are made out of. Examples are Mammut Glacier (men’s) or Mountaineering (women’s) Pants, Marmot Scree Pants, and Patagonia Guide Pants.

WATERPROOF/BREATHABLE JACKET: This should be roomy enough to fit over all previous upper body layers without constricting your freedom of movement. It should be wind and waterproof. Gore-tex is the most common material but other good fabrics exist such as eVent, Sympatex, NeoShell, and a few proprietary textiles. Arc’teryx, Marmot, Mountain Hardware, The North Face, and Patagonia all make excellent jackets for mountaineering. This is referred to as your “shell” or “storm” gear.

WATERPROOF/BREATHABLE PANTS: Size them to fit over all previous leg layers. Side zippers are mandatory for this piece because they are usually put on and taken off *during* a climb. The same companies who make jackets make matching bibs and pants.

***DOWN JACKET:** Your down jacket is your last warm layer. It should fit **over** all previous layers *including* your shell gear. It is used to prevent chilling during rest breaks, staying warm while on the summit, and for evenings at camps. Heavier types are preferred over lighter “down sweaters”. The jacket should have a hood. The Mountain Hardware Sub Zero SL Parka and Feathered Friends Icefall Parka are excellent down jackets. Synthetic filled jackets are warm enough although they are usually heavier and bulkier than their down counterparts and not recommended.

GAITERS: Models that attach by Velcro as opposed to a zipper work best. Velcro is easier to work in cold weather and less prone to breaking. Make sure the gaiter fits with your boots and all your leg layers. Outdoor Research Crocodile and Mountain Hardwear Stretch Pinnacle's are excellent gaiters.

WARM CAP: Hats made of fleece or wool fabrics are readily available.

FACE MASK OR BALACLAVA: Capilene and wool versions are readily available. Our favorite is called the Gorilla Balaclava made by Outdoor Research.

BUFF OR FACE GUARD: For wind and protection against dusty air. During treks the wind can kick up dust particles that can leave the throat dry and irritated. Many people prefer to wear a buff or bandana to minimize breathing in too much dust and to keep the throat moister.

INSULATED SHELL GLOVES: Gloves offer more dexterity in the fingers than mittens making it much easier to hold an ice axe or ski poles. Black Diamond Guide Glove, Mountain Hardwear Medusa, and Outdoor Research Alti Goves are all excellent models.

SYNTHETIC OR WOOL GLOVES: Gloves made of fleece or leather for warmth on cool days at nights. Examples include Black Diamond Kingpin, Arc, or HeavyWeight Gloves, and Mountain Hardwear Torsion or Power Stretch Gloves.

WOOL SOCKS: Bring two pairs for multi day Sierra trips. For international trips bring 3-4 pairs. Darn Tough Hiker Boot Sock or Mountaineering Over The Calf Sock, or Icebreaker Mountaineer and Heavy Crew are all excellent socks. Your socks should not be loose enough to create wrinkles which lead to blisters, but not so tight that they constrict blood circulation. **No cotton socks!**

LINER SOCKS: Some people use these to reduce friction between their feet and thick socks cutting down on blisters. Synthetic and wool materials are available. **No cotton socks.** This is an optional item. Test your sock combination on your training climbs.

SUN HAT OR BASEBALL CAP: To shade your head during warm days. Hats displaying SMI, Lakers, Raiders, or USC logos work *much* better than any other hat on the market.



Roped up at the beginning of our summit day a couple hours before sunrise.



A happy group pauses for a summit photo on a beautiful clear day atop Mt. Whitney.

GEAR

***PACK:** This should be 85 liters or larger in capacity. Internal frame packs are the choice of most mountaineers because they provide freedom of movement for arms, fit close against the back, and move with you. For traveling they are much easier to pack and stand a much less chance of getting broken. Follow the manufacturer's guidelines for fitting the pack to your body. Keep in mind it is your torso length that is critical, not your overall height. Torso length is the distance between the iliac crest and C7 vertebrae (the big one at the bottom of your neck). The pack hip belt needs to fit **below** the waist strap on your climbing harness. A few good brands are Cilo Gear, Gregory, and Osprey.

***SLEEPING BAG:** This needs to be good quality and rated to at least 0°F/-17°C. Down or synthetic insulation is fine. Down is lighter and will hold its loft for about three times as long as synthetic insulation. On average you can figure on approximately six years maximum of good use for manmade insulation and 15-20 years for down. Marmot, Mountain Hardwear, Sierra Designs, and Feathered Friends all make top quality sleeping bags. A compression stuff sack that will fit your sleeping bag and down jacket is highly recommended to help cut down on bulk when packing it.

***SLEEPING PAD:** These serve two purposes: (1) insulate your body from the cold ground, and (2) provide sleeping comfort. Closed cell foam does the first well, but the second only marginally well. Thermarests made by Cascade Designs do both functions very well but are a bit more fragile. If you bring a Thermarest buy a stuff sack to help protect it while traveling and a repair kit to patch any potential holes (Cascade makes both of these). There are different lengths and thicknesses. The NeoAir and Prolite 4 are good models. Some people optionally will bring an ensolite pad for extra warmth and comfort. Cascade makes Ridge Rest and Z Lite pads that work well for this. Consider cutting a full length pad in half to reduce bulk and weight. It will still be long enough to offer extra insulation to your torso.

***MOUNTAINEERING BOOTS:** Extremely important to get a proper fit. They should have plenty of toe room and not constrict blood circulation. Fit them with the same socks you plan on climbing in. When you kick your toes on the ground, they should not hit the front of the boot. A *small* amount of heel lift is acceptable when walking. A double sock system helps prevent blisters caused by rubbing. For plastic boots, liners constructed with Aveolite are the warmest but any standard liner will be fine. For leather boots, they **must** have a stiff shank and be designed specifically for use with crampons. **Do not** bring a lighter pair thinking you can get by. All brands fit differently. Many good mountain shops will guarantee the fit even if you have worn them. Good models include the Lowa Expedition 6000, Civetta, Civetta Extreme GTX, Weisshorn, and Mountain Expert GTX. Other models to consider are La Sportiva Spantik, Nepal Extreme, and Baruntse.

***SNOWSHOES:** Any of the many brands on the market will work as long as the binding system fits your boot. Snowshoes come in different lengths. Yours should be at least 22 inches long.

***AVALANCHE TRANSCIEVER:** These should work on the international frequency of 457 kHz, instead of the old North American 2.275 kHz. Digital models are preferred. SMI currently uses the Tracker made by Backcountry Access, and the Barryvox by Mammut. Make sure you have new batteries for it. Most modern transceivers have features that let you test how much battery life is left. 75% battery life is minimum.

***CRAMPONS:** Hinged or semi-rigid as opposed to rigid. They should have 12 points. There is a difference between crampons made for glacier/snow travel and those designed for vertical ice climbing. Good models for snow and glacier climbing include the Grivel G12, and Black Diamond Serac or Sabertooth. Bring extra screws & tools needed to do field repairs.

***ICE AXE:** 60-70 cm is a good length. Models that have a smooth head along the top with no humps in it are best. A hump can cause fatigue in your hand when held for hours at a time. Black Diamond makes three good ice axes call the Raven, Raven Pro, and Venom. Attach a leash to it with 11/16" or 1" tubular webbing. If you are unsure how to rig it, bring about 7 feet of webbing and we'll set it up for you during the trip.

***MOUNTAINEERING HELMET:** Helmets made for mountaineering only as opposed to bicycling, skiing, or other sports. It should have an attachment for a headlamp and fit on your head with and without a warm cap on. Black Diamond Half Dome, Mammut Skywalker 2, and Petzl Ecrin are all good models.

***CLIMBING HARNESS:** Harnesses with adjustable leg loops are highly recommended for mountaineering. This simplifies putting it on, allows you to go to the bathroom while remaining clipped in to the rope, and gives a better fit with varied layers of clothing. To achieve a correct fit, keep the following points in mind. The waist belt should sit in the soft spot above your hipbones and below your ribcage. Wear your climbing harness over your base layer(s) of clothing. Also, the waist belt should have at least three inches left over after it has been threaded and doubled back through the buckle. Recommended models include the Arc'teryx b360a, Black Diamond Aspect or Lotus (women's specific), and Mammut Togir Slide or Ophir 4 Slide (Ophira 3 Slide women's specific). The waist belt of your harness should be **above** the hip belt of your pack.

LOCKING CARABINERS: Bring two large locking carabiners of any shape. These will be used to clip you into the climbing rope and anchor points. A screw gate lock mechanism is preferable over the spring loaded design. The spring is prone to icing or getting clogged with dirt preventing it from working correctly.

***MECHANICAL ASCENDER:** These will be used to attach to fixed line anchored in snow. It has a cam with teeth on it. It lets you slide it up a rope but not down. Attached to your climbing harness it provides a self-belay as you climb. Black Diamond NForce and Petzl Basic or Ascension are good models. You only need one for this trip.

WEBBING: One 5' and one 10' piece (before tied up) of nylon tubular webbing. It can be either 11/16", or 1". Buy this in a climbing shop, not a hardware store. One double and one shoulder length sewn sling is also acceptable.

***ADJUSTABLE TREKKING POLES:** These are great energy savers and provide extra stability on uneven ground. Poles that adjust in length are best for traveling so they will conveniently fit inside your duffel bags. Black Diamond and Leki make excellent trekking poles. **For snow trips make sure your pole baskets are attached to the poles. They will not work in the snow without them.**

***HEADLAMP:** Most mountaineering headlamps use AA batteries. Headlamps powered by AAA batteries are inadequate for mountaineering unless you use lithium batteries. Lithium batteries are preferable for cold conditions. Princeton Tec makes a good headlamp called the Apex. Bring two new sets of batteries. **Keep the battery unplugged while carrying it in your pack and traveling.**

DARK GLASSES: Your dark glasses should filter out 100% of UV and have good side protection. A leash is recommended as well as a hard case to protect them from being crushed.

GOGGLES: For stormy or highly windy conditions. They are especially nice for people who wear contact lenses. Smith Monashee and Bolle X-500 and X-700 fit over glasses.

WATER BOTTLES: Bring 2-3 bottles that are 1 liter in capacity. Many solid leak proof bottles are available at mountaineering stores include Nalgene, Klean Kanteen, and Liberty. **No** Camelbacks, Platypuses, Dromedary Bags, or other bladder type containers with a hose attached to it. These are not designed for mountaineering in cold conditions. The hoses freeze (even with insulated coverings) and the bladders crack in the cold rendering them useless and getting your gear soaked. **Mark your bottles so you can tell which ones are yours!**

THERMOS: This is an optional item. For cold trips such as winter/spring peak ascents and ice climbing in the Sierra or summit days on our high altitude international programs. There are many good quality slim thermos's available. One that is ½ - 1 liter in capacity perhaps with tea added.

POCKET KNIFE: Swiss Army Knives and Leatherman Tools are the most popular among mountaineers. Handy features to have are a large and small blade, can opener, screw driver, and scissors.

WRIST WATCH: With an alarm and light for reading in the dark. Our favorite are Suunto altimeter watches such as the Core or Ambit 3 Peak.

SUNSCREEN: Bring one 2-4 ounce bottle of SPF 15 or higher.

LIP BALM: Bring one tube of SPF 15 or higher. Consider a brand that allows application without dipping a finger which eliminates the need to remove a glove or using a dirty finger.

TOILET PAPER: Enough sufficient for the length of your trip. Place it in a zip lock bag so it doesn't get wet. Many people like to include in that bag a few handy wipes and/or a one-ounce bottle of anti-bacterial hand sanitizer. ***For women only:*** *Many women on our trips have brought a funnel type device allowing them to pee standing up. They usually go by the names Sani-Fem, Freshette, or Shewee and are readily available in most mountaineering stores.*

TOOTHBRUSH, PASTE, FLOSS: Small travel size in a plastic bag is ideal for these items.

EATING UTENSILS: Bring a 22 ounce insulated mug for hot drinks, a plastic bowl, and spoon. Durable foldable plastic bowls are readily available in mountaineering stores. Tupperware or empty Cool Whip containers with a lid make great bowls. Lexan utensils are lighter than metal.

DIGITAL CAMERAS: Battery life is an issue at high altitude and cold conditions so prepare accordingly. Models that have an actual view finder instead of solely a display screen are preferred. It saves battery life and the display screens can be difficult to see in bright conditions. Bring a memory card big enough for the trip. Do not plan to bring a tablet or lap top computer to download your pictures during the trip.

PERSONAL LUNCH FOOD: Items that are easy to eat are best. Pre-make your sandwiches; wrap things in Ziploc bags to keep your food from getting wet. Cookies, cheese, crackers, salami, hummus, chips, sardines, smoked oysters, fruit, hard candy, power gels, and power blocks are a few suggestions. Power and energy type bars are not recommended unless you truly enjoy eating them. Consider bringing drink mix or tea bags for your water.